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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/719,546	12/22/2000	Steven J. Hensen	LC-355PCT US	9980

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05/02/2003

Loctite Corporation  
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EXAMINER

BAREFORD, KATHERINE A

ART UNIT	PAPER NUMBER
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1762

DATE MAILED: 05/02/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/719,546

Applicant(s)

HEMSEN, STEVEN J. *my-9*

Examiner

Katherine A. Bareford

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11 April 2003.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-35 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers** *claims 36-41 are canceled.*

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

### DETAILED ACTION

1. The response of April 11, 2003 has been received and considered.

#### *Claim Objections*

2. Claims 25 and 26 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Claims 25 and 26 do not further limit the claim because in claim 25, the ability of the composition to transition to a solid does not provide a further limitation to the parent apparatus claim 18, because the composition is not part of the apparatus. In claim 26, the impregnating composition is not part of the apparatus itself, and thus a further definition of the composition does not limit the claims.

Applicant's amendments of April 11, 2003 did not make these claims further limiting as discussed above.

3. The objection to claims 26 and 33 because of informalities is withdrawn due to applicant's amendments to claims 26 and 33 to correct the spelling.
4. Claim 9 is objected to because of the following informalities: in claim 9 as worded by the amendment of April 11, 2003, step (a) appears to contradict step (b), in that in step (a) a mobile

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vessel must be initially provided containing a flowable polymerizable composition and a porous article to be impregnated, and step (b) provides a further station for "impregnating composition addition", which from a reading of the specification would be the step at which a vessel containing only the article to be impregnated has composition added.

Appropriate correction is required.

*Claim Rejections - 35 USC § 112*

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. The rejection of claims 5-7, 15-17 and 23 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention is withdrawn due to the amendment to the claims to clarify that "excess" flowable composition is reclaimed.

*Claim Rejections - 35 USC § 102*

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. The rejection of claims 1-2, 5-6, 9-10, 15-16, 18-23, 25 and 30-31 under 35 U.S.C. 102(b) as being anticipated by Schön (US 4517137) is withdrawn due to applicant's amendments.

*Claim Rejections - 35 USC § 103*

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted state of the prior art in view of Kerns et al (US 3529320) and Schön (US 4517137)

The admitted state of the prior art, at page 1-4 and figures 1-2 of the specification, teaches that it is well known to use a liquid impregnant to seal the porosity of porous articles of materials such as lightweight metals. The material can be a curable sealant composition. Typically, among other steps, the article is subjected to vacuum aspiration in a vacuum tank, thereby removing entrapped air for the pores in the part; the article is immersed in a bath of an organic liquid impregnant such as an anaerobic impregnant; maintaining the article in a vacuum; and subsequently exposing the immersed article to atmospheric pressure, thereby causing the impregnant to permeate the pores. It is also possible for the impregnation chamber to be pressurized at the end of the vacuum cycle to force the impregnant into the pores of the article.

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Then, the liquid impregnant is returned to a storage reservoir and the article is centrifuged to expel any excess impregnant adhering to the surface thereof. The article is also subjected to a curing treatment. The admitted state of the prior art teaches that the impregnation steps take place in a single, immobile chamber, which provides the disadvantage of a lengthy duration of treating time and a requirement of sequential step processing as well as other problems.

Thus, while the admitted state of the prior art teaches a impregnation process for impregnating a polymerizable flowable composition into the pores of an article, including the steps of adding composition, vacuum treatment, pressure treatment, centrifuge, reclaiming and retrieval, it does not teach (1) sequentially directing a movable vessel to separate stations to perform the specific impregnation steps (claims 1, 9, 18, 33), (2) de-aeration treatment of the flowable composition (claims 12-14, 27-29, 34-35), (3) plurality of stations and vessels (claim 30), (4) directing means (claim 31), (5) the controller for the directing means (claim 32) and (6) tipping the vessel to reclaim excess composition (claims 7 and 17).

Kerns teaches a method and apparatus for encapsulating electrically conductive means. Figures 1-3 and column 1, lines 10-25. Kerns teaches that prior art encapsulating methods and apparatus generally operated on the batch principle, which provides limited production capabilities due the length of time required for various steps of the process. Column 1, lines 45-65. Kerns provides a new method that increases the production capability compared to the batch process, by providing multiple processing vessels that are transported to various stations (index positions), so that a specific step can be carried out in each station. Column 1, line 60 through column 2, line 20. The process can be used to encapsulate the electrically conductive means with a thermoset or

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thermoplastic resin. Column 7, lines 65-70. The article to be encapsulated is loaded into a vessel, and the vessel is moved sequentially through a series of stations. Figures 1-3 and column 6, lines 30-45. The stations include a flowable resin adding station, a vacuum station and a retrieval station. Column 5, line 50 through column 6, line 30 and figures 1-3. After processing through the stations, the coated article can be sent to a curing station to polymerize the composition. Figure 3 and column 6, lines 25-30. Kerns also teaches that the resin to be added is provided from a separate vessel. Column 7, lines 50-65 and column 8, lines 5-50 and figure 2. This vessel is provided under a vacuum which de-aerates the resin system. See column 8, lines 40-50. Kerns also provides directing means for moving the vessels from one station to another. See column 2, lines 45-75 (drive means 16 and carriage 12). The means for moving is under the control of a conventional system. See column 7, lines 45-55.

Schön teaches an impregnation process and apparatus. Figure 1 and column 1, lines 10-15. At least one mobile vessel is provided in which impregnation of a porous article can be carried out. Column 3, lines 1-25 and figure 1. The vessel comprises a chamber for containing a flowable impregnating composition and at least one porous article to be coated. Column 3, lines 1-25 and figure 1. A series of stations are provided. Figure 1 and column 3, lines 1-25. These stations define an impregnation sequence. Figure 1 and column 3, lines 1-25. Each station performs at least one specific impregnation step on the porous article within the vessel. Figure 1 and column 3, lines 1-25. The vessel is sequentially directed to at least one selected station chosen from said series of stations. Figure 1 and column 3, lines 1-25. The at least one specific impregnation step is performed at the selected station. Figure 1 and column 3, lines 1-25. The

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series of stations includes a vacuum station where a vacuum step is performed on the vessel to remove air from the porous article. Figure 1 and column 6, lines 25-50. The excess flowable impregnating composition is reclaimed after the impregnation step. Claim 7, lines 35-45. The stations include one where the reclaiming step is performed. Claim 7, lines 35-45 and figure 1 (as part of the pressurization station D). Schön teaches that the system can be used to impregnate porous carbon or graphite bodies with materials such as tar or pitch, but also teaches that the system can also work for other types of bodies with other flowable materials. See column 5, lines 35-50. Schön also teaches a pressurization station that completes impregnation of the article. See column 7, lines 25-45 (station D).

It is the Examiner's position that it is well known to tip a vessel to remove/drain excess material in a vessel. If applicant disagrees, he should so state on the record.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the admitted state of the prior art to use a movable vessel to provide individual process steps at individual stations as suggested by Kerns and Schön to provide a more efficient and quick impregnating process and apparatus, because the admitted state of the art teaches the various individual process steps required to impregnate a porous article using a batch method, but that such a batch process provides for an undesirably lengthy process, and Kerns teaches that when providing a resin encapsulating process, the individual process steps can be performed in a vessel that moves from station to station for a method that is desirably quicker than a batch system, and Schön further teaches that it is conventionally known to provide a movable vessel that moves an article to be impregnated through individual impregnating step stations. It would



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further have been obvious to modify the admitted state of the prior art to de-aerate the coating before it is sent to the vessels as suggested by Kerns to provide a desirable coating material. It would further have been obvious to modify the admitted state of the prior art in view of Kerns and Schön to tip the vessel horizontally so as to pour out excess composition with an expectation of desirable impregnation results, because the admitted state of the prior art teaches removing excess liquid and Schön teaches to remove excess composition and further teaches that the vessels are portable and with removable lids, and thus it would have been obvious to one of ordinary skill in the art that any conventionally known way to remove excess material from a vessel, i.e. by draining from a line, or pouring out by tipping, would be expected to provide desirable reclaiming results. It further would have been obvious to one of ordinary skill in the art to modify the admitted state of the prior art in view of Kerns and Schön provide a computer/machine logic based control means to provide a desirable path control, because Kerns teaches using conventional control means for logically coordinating the various switches and the liquid to control the system, and one of ordinary skill in the art would understand such systems to be well known to be computer controlled.

### *Response to Arguments*

11. Applicant's arguments with respect to claims 1-35 have been considered but are moot in view of the new ground(s) of rejection.

Applicant has amended the claims to require a flowable polymerizable resin impregnating material and a polymerization step, and limited the series of stations to specific treatment

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stations. The Examiner has cited Kerns (US 3529320) as to the conventionality of providing a curable polymerizable resin and polymerization step in a movable vessel system as discussed in the rejection above.

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

### *Conclusion*

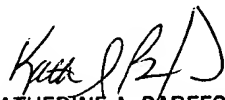
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Katherine A. Bareford whose telephone number is (703) 308-0078. The examiner can normally be reached on M-F(7:00-4:30) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive P. Beck can be reached on (703) 308-2333. The fax phone numbers for the

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organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

  
KATHERINE A. BAREFORD  
PRIMARY EXAMINER  
GROUP ~~1100~~ 1700